

ABSTRACT

[0073] A flexible diffuser membrane is provided with a unique system of perforations arranged to result in uniform distribution of gas even though the membrane deflects to different extents or the submergence varies in different parts of the membrane. The perforations are arranged to provide less perforation area per unit of perforated membrane surface area in the membrane parts that deflect the most or are submerged least and greater perforation area in membrane parts that deflect the least or are submerged most. The perforations can be slits arranged in parallel rows on a tubular membrane, in concentric circles or another pattern on a disk membrane, or in still a different pattern on a flat panel diffuser membrane. The slit length or separation can be varied between different zones on the membrane surface or the spacing between rows or circles can be varied.